

# Wildfire in Colorado



## Preliminary Report on the 2012 Wildfire Season

May 8, 2013



**Colorado Division of Fire Prevention and Control**

690 Kipling Street # 2000 ■ Lakewood, CO 80215

Phone: (303) 239-4600 ■ Fax: (303) 239-5887

<http://dfs.state.co.us>



# Wildfire in Colorado 2012 – Preliminary Report

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### Credits

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### The "Unprecedented" Wildfire Season

December 31, 2012 – The Fern Lake Fire is not out; but snowfall in the park has reduced the fire's spread and its potential to spread to very low. According to a Rocky Mountain National Park spokesperson, the fire is "smoldering in an area that's difficult to access among dense areas of trees and plant matter that has built up on a landscape unscathed by fire in more than 800 years." The spokesperson added that it may continue to burn and create visible smoke, particularly in the Forest Canyon area, through the winter.

Thus, the 2012 calendar came to an end, and the 2012 wildfire season did not.

Smoke from wildfires became a regular smell in the air across Colorado's Front Range this summer. Ash falling from the skies wasn't uncommon. Residents were evacuating homes due to fire, sometimes being allowed to return home and then having to evacuate again.

Prior to 2012 many considered 2002 the year's worst for wildfires. In that year of widespread drought, the Hayman Fire and the Missionary Ridge Fire burned a combined 211,000 acres, and were just two of many fires across the state that occurred.

The 2002 Hayman Fire still ranks as the largest fire in state history. That blaze burned 137,760 acres southwest of Denver, and resulted in 5 deaths, 16 injuries and 133 homes destroyed.



This editorial cartoon published on June 27, 2012 by Dave Granlund sums up the 2012 wildland fire season in Colorado. Courtesy: Dave Granlund

The High Park Fire (Larimer County) in June of 2012 is considered to be the second largest fire in state history. That fire burned 87,284 acres, killed 1 person, and destroyed 259 homes.

During the 2012 wildfire season, the state saw:

- Destruction of more than 347 homes in the Waldo Canyon Fire – the largest number of homes destroyed by a single fire in state history.
- The most expensive wildfire season in Colorado history in terms of insured losses. Preliminary damage estimates from insurance claims currently total \$449.7 million.
- The fourth largest fire in recorded Colorado history (Last Chance Fire). The Last Chance Fire, a grass fire in Washington County, burned 45,000 acres in a single day on June 25, 2012.
- The most deaths of residents inside a burn area in a fire in state history (3 civilian fatalities in Lower North Fork Fire).

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- An evacuation of the whole northwestern quadrant of the city of Colorado Springs (over 32,000 residents), which was the largest single-area mandatory evacuation ever due to a fire in the state.

For 2012, Colorado fire departments reported 6,459 wildland fires through the National Fire Incident Reporting System (NFIRS). These fires destroyed more than 648 structures, killed 6 civilians, burned more than 259,451 acres and have caused at least \$538 million in property losses.

### Emergency Fire Fund (EFF) Fires

The Emergency Fire Fund (EFF) was established in 1967 by a few counties that recognized that some wildfires may exceed the counties' resources and abilities to manage them. Participation in the EFF is voluntary. A 10-person committee, composed of county commissioners, sheriffs, fire chiefs and the Director of the Division of Fire Prevention and Control (DFPC), oversees the administration of the fund. Currently, 43 Colorado counties and the Denver Water Board contribute to EFF. The total annual amount contributed to the EFF is \$1 million.

In 2012, there were a total of 16 fires qualifying for EFF. The total suppression costs for these fires (state share) are estimated to be \$48.1 million.

### Emergency Fire Fund Fires - 2012

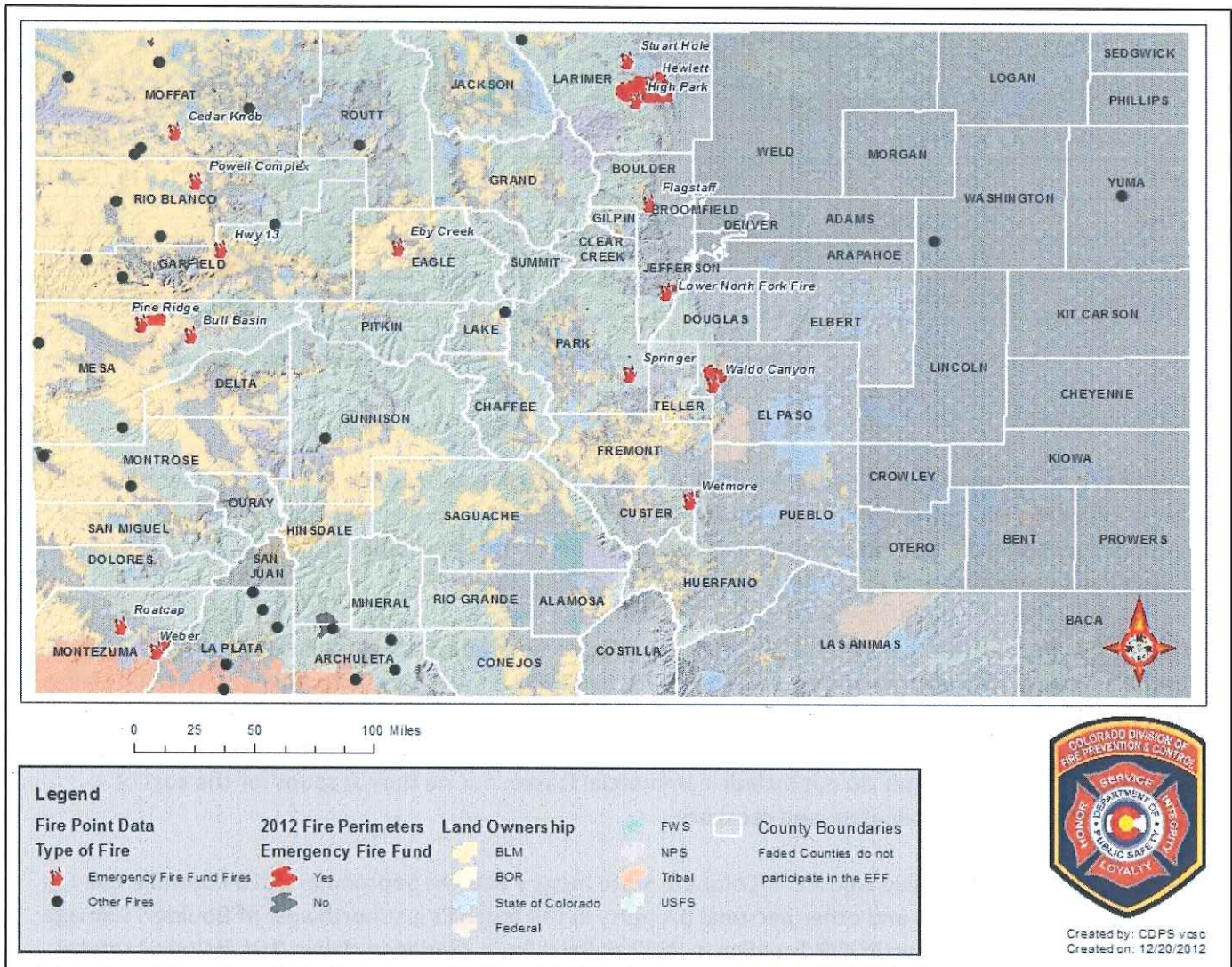
Fire	Location	Month	Size (acres)	Homes Lost	Fatalities	Est. Cost Suppression
Lower North Fork*	Jefferson County	March	4,140	27	3	\$5,165,000
Hewlett	Larimer County	May	7,685	0	0	\$1,000,000
Stuart Hole	Larimer County	June	227	0	0	\$200,000
High Park *	Larimer County	June	87,284	259	1	\$25,100,000
Springer	Park County	June	1,145	0	0	\$600,000
Weber *	Montezuma County	June	10,133	0	0	\$2,135,000
Waldo Canyon *	El Paso County	June	18,247	346	2	\$6,470,000
Flagstaff	Boulder County	June	300	0	0	\$2,500,000
Pine Ridge	Mesa County	July	13,920	0	0	\$500,000
Eby Creek	Eagle County	July	8	0	0	Unknown
Bull Basin	Mesa County	July	20	0	0	\$200,000
Powell Complex	Rio Blanco	July	1,650	0	0	\$210,000
Cedar Knob/Cold	Moffat County	July	1,056	0	0	\$110,000
Highway 13	Garfield County	October	991	0	0	\$150,000
Wetmore *	Custer & Pueblo	October	1,998	15	0	\$3,515,000
Roatcap	Montezuma	October	400	0	0	\$250,000
<b>Totals</b>			<b>149,204</b>	<b>647</b>	<b>6</b>	<b>\$48,105,000</b>

\* FEMA FMAG qualifying fires.



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## Emergency Fire Fund Fires - 2012



## Fire Management Assistance Grant (FMAG) Fires

When an uncontrolled wildfire poses an imminent threat to life and property and could result in a major disaster declaration, DFPC requests federal fire management assistance through the Fire Management Assistance Grant (FMAG) Program administered by the Federal Emergency Management Agency. If awarded, FMAGs provide for up to 75 percent of eligible costs in the suppression of catastrophic wildfires.

In 2012, there were 5 fires in Colorado that qualified for federal fire management assistance through the FMAG program. It is anticipated that the State will be reimbursed approximately \$25 million from FEMA for these fires.



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### Fire Management Assistance Grant (FMAG) Fires - 2012

Fire	County	Size (acres)	Homes Lost	Fatalities	Est. Cost Suppression	Est. FEMA Reimbursement
Lower North Fork	Jefferson	4,140	27	3	\$5,165,000	\$3,000,000
High Park	Larimer	87,284	259	1	\$25,100,000	\$15,000,000
Weber	Montezuma	10,133	0	0	\$2,135,000	\$1,281,000
Waldo Canyon	El Paso	18,247	346	2	\$6,470,000	\$3,705,000
Wetmore	Custer	1,998	15	0	\$3,515,000	\$2,109,000
<b>Totals</b>		<b>121,802</b>	<b>647</b>	<b>6</b>	<b>\$42,385,000</b>	<b>\$25,095,000</b>

### Insured Losses<sup>1</sup>

The 2012 Wildfire Season took a devastating toll on Colorado residents, burning more than 600 homes and personal property. While the claims and rebuilding process continues, preliminary damage estimates now total \$449.7 million from insurance claims that include smoke damage, additional living expenses, damaged and destroyed homes, as well as personal belongings and vehicles.

The estimated insured losses make the Waldo Canyon Fire in Colorado Springs the most expensive wildfire in Colorado's history, with insurance costs totaling more than \$352.6 million from approximately 4,300 claims filed so far. Officials put the number of homes destroyed at 346. The High Park Fire near Fort Collins burned 259 homes and based on the nearly 850 insurance claims filed so far the insurance costs are estimated at \$97.1 million. These estimates do not include commercial losses, nor do they account for the cost of firefighting or wildfire rehabilitation and recovery.

Previously, the most expensive wildfire in Colorado state history was the September 2010 Fourmile Canyon Fire that burned 169 homes and other personal property in the foothills just northwest of Boulder. Damage estimates totaled \$217 million (\$229.1 million in 2012 dollars) from insurance claims that included smoke damage, additional living expenses, damaged and destroyed homes, as well as personal belongings and vehicles.

The overall estimated cost of the 2002 Colorado wildfire season including the Iron Mountain, Coal Seam, Missionary Ridge and Hayman Fires was \$70.3 million in insured losses (\$90.0 million in 2012 dollars). Companies took in about 1,236 claims for the Hayman and Missionary Ridge Fires at an estimated cost of \$56.4 million.

Wildfire insurance costs hinge on a number of factors, including the number of primary homes in the area (as compared to vacation homes and cabins), their estimated value and the amount of insurance coverage on the properties.

<sup>1</sup> The wildfire insurance loss information for this report was provided by the Rocky Mountain Insurance Information Association (RMIIA). See: [http://www.rmiiia.org/Catastrophes\\_and\\_Statistics/Wildfire.asp](http://www.rmiiia.org/Catastrophes_and_Statistics/Wildfire.asp).

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### Colorado Wildfire Insured Losses

Year	Fire	Insured Loss (\$ Millions)	2012 Dollars (\$ Millions)*
2012	Waldo Canyon, Colorado Springs	\$352.6	\$352.6
2012	High Park, near Fort Collins	\$97.1	\$97.1
2010	Fourmile Canyon, northwest of Boulder	\$217.0	\$229.1
2002	Hayman, southwest of Denver	\$38.7	\$49.5
2002	Missionary Ridge, near Durango	\$17.7	\$22.7
2002	Coal Seam, Glenwood Springs	\$6.4	\$8.2
2002	Iron Mountain, near Cañon City	\$7.5	\$9.6

\*2012 estimated cost calculations based on the Consumer Price Index.

### Wildfire Emergency Response Fund (WERF)

The Wildfire Emergency Response Fund (WERF) was created to assist local jurisdictions with initial attack wildland fire response on state and private lands within the state of Colorado. Any County Sheriff, municipal fire department, or fire protection district within Colorado may request WERF as the official Requesting Agency. WERF will reimburse, if funds are available, the Requesting Agency the cost of eligible wildland firefighting resources. Eligible costs under Sec. 24-33.5-1226, C.R.S., include:

- (a) The first aerial tanker flight or the first hour of a firefighting helicopter to a wildfire; and
- (b) The employment of wildfire hand crews to fight a wildfire for the first two days of a wildfire, with a preference for the use of wildfire hand crews from the inmate disaster relief program.

As the 2012 fire season progressed at record pace, Governor Hickenlooper acted to enhance initial attack in order to help prevent small fires from growing into large fires. On July 18, 2012, DFPC implemented enhanced use of the Wildfire Emergency Response Fund by doubling the amount for the resources listed above.

As of November 9, 2012, WERF was utilized on a total of fifty-two fires and enhanced WERF was utilized on nineteen of these fires. The DFPC believes that without use of WERF and specifically “enhanced WERF”, several of these fires would have qualified as Emergency Fire Fund fires. This would have negatively impacted the Disaster Emergency Fund and require additional transfers from the General Fund.

### Statutory Change of Authorities

On July 1, 2012, the State responsibilities for wildland fire management and prescribed fire transferred from Colorado State University to the Colorado Department of Public Safety under its Division of Fire Prevention and Control. This was a result of legislative action in the form of HB 12-1283. The new organization for wildland fire management is described in the next section of this report.



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### The Division of Fire Prevention & Control – Born from the Ashes of Tragedy

It is a well-known fact that, throughout history, much of the legislation that is drafted and passed into law is a result of tragedy. Such is the case of the legislation that created the Division of Fire Prevention and Control in the Colorado Department of Public Safety.



An airtanker drops retardant on Tuesday, March 27, 2012 on the Lower North Fork Fire in Jefferson County – Denver Post photo

On March 26, 2012, a wildfire occurred in the foothills of Jefferson County, Colorado. This fire, called the Lower North Fork fire, burned for a week and resulted in the tragic deaths of three people, the loss of 24 structures and the scorching of 4,140 acres in a populated area near Conifer, Colorado. At the peak of the fire, over 900 homes in the area were evacuated.

As a result of this wildfire, Governor John Hickenlooper and Colorado State University (CSU) President Tony Frank requested a

thorough examination of the state's emergency response capabilities. The team was directed to review the structure of the emergency coordination between the State Forest Service and the Division of Emergency Management—and their processes and communication systems—in order to improve the state's response to fires and protect people and property.

After careful analysis, the review team recommended that the prescribed fire and wildfire management portions of the Colorado State Forest Service (CSFS) in CSU be moved into the Division of Fire Safety, within the Colorado Department of Public Safety (CDPS), and the Division of Emergency Management (DEM), within the Department of Local Affairs (DOLA), also be moved into the CDPS.

This reorganization was codified in HB12-1283, "Concerning the Department of Public Safety, and, in Connection Therewith, Renaming and Reorganizing Certain Existing Entities, and Making and Reducing Appropriations." The purpose of HB12-1283 is to enhance Colorado's ability to prepare for, and respond to fire and other emergencies by creating a single point of authority for fire and by consolidating the State's homeland security and emergency management functions in the CDPS.

HB12-1283, which was signed by Gov. Hickenlooper on June 4, 2012, created the Division of Fire Prevention and Control (DFPC) from the former Division of Fire Safety and transferred the fire responsibilities from CSU/CSFS effective July 1, 2012.



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To accomplish the orderly transfer of responsibilities from CSU/CSFS, a Transition Advisory Committee (TAC) was established from employees of the two agencies and representatives of federal, state, local, and private sector stakeholder organizations.

The inaugural meeting of the TAC was held on May 25, 2012 at the CSFS facilities on the CSU Foothills Campus in Fort Collins. At this meeting the TAC embarked on the historic task of creating a new model of "Cooperative Fire Protection" in Colorado, by taking this organization, born from the ashes of tragedy, and guiding its transformation.

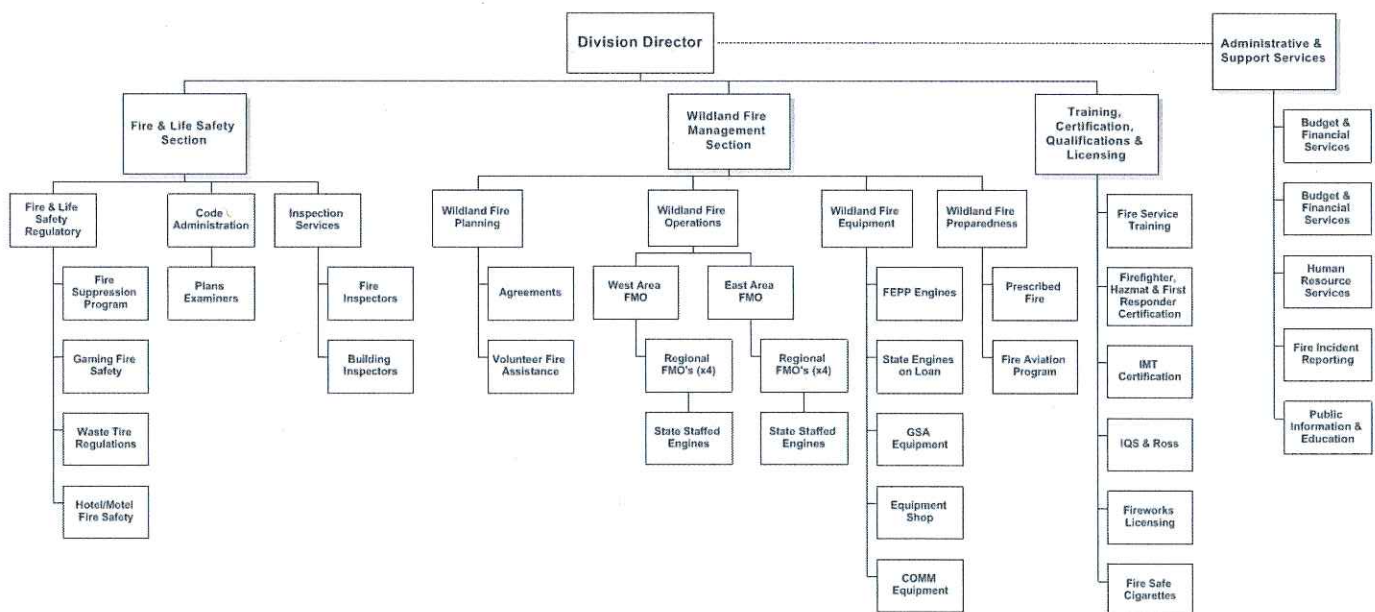
### DFPC Mission Statement

The mission of the Colorado Division of Fire Prevention and Control is to safeguard those that live, work, learn and play in Colorado, by reducing threats to lives, property and the environment. The Division safeguards the public through: fire prevention and code enforcement; wildfire preparedness, response, suppression, coordination, and management; training and certification; public information and education; and technical assistance to local governments.

This mission is accomplished through the development and maintenance of relationships and cooperative delivery of various statewide fire prevention, protection and suppression programs that support local governments as well as state and federal agencies for delivery of services to the citizens of Colorado.

Over the course of the next several weeks, during one of the worst wildland fire seasons in Colorado's history, the TAC and its subcommittees met many times to make recommendations concerning the transition. The principal goal of the TAC during this time was to ensure that when the transition occurred on July 1, the new organization was capable of fulfilling the state's responsibilities with respect to wildland fires, namely to assist with fires that exceed local capabilities.

### Division of Fire Prevention and Control (DFPC) Organizational Chart



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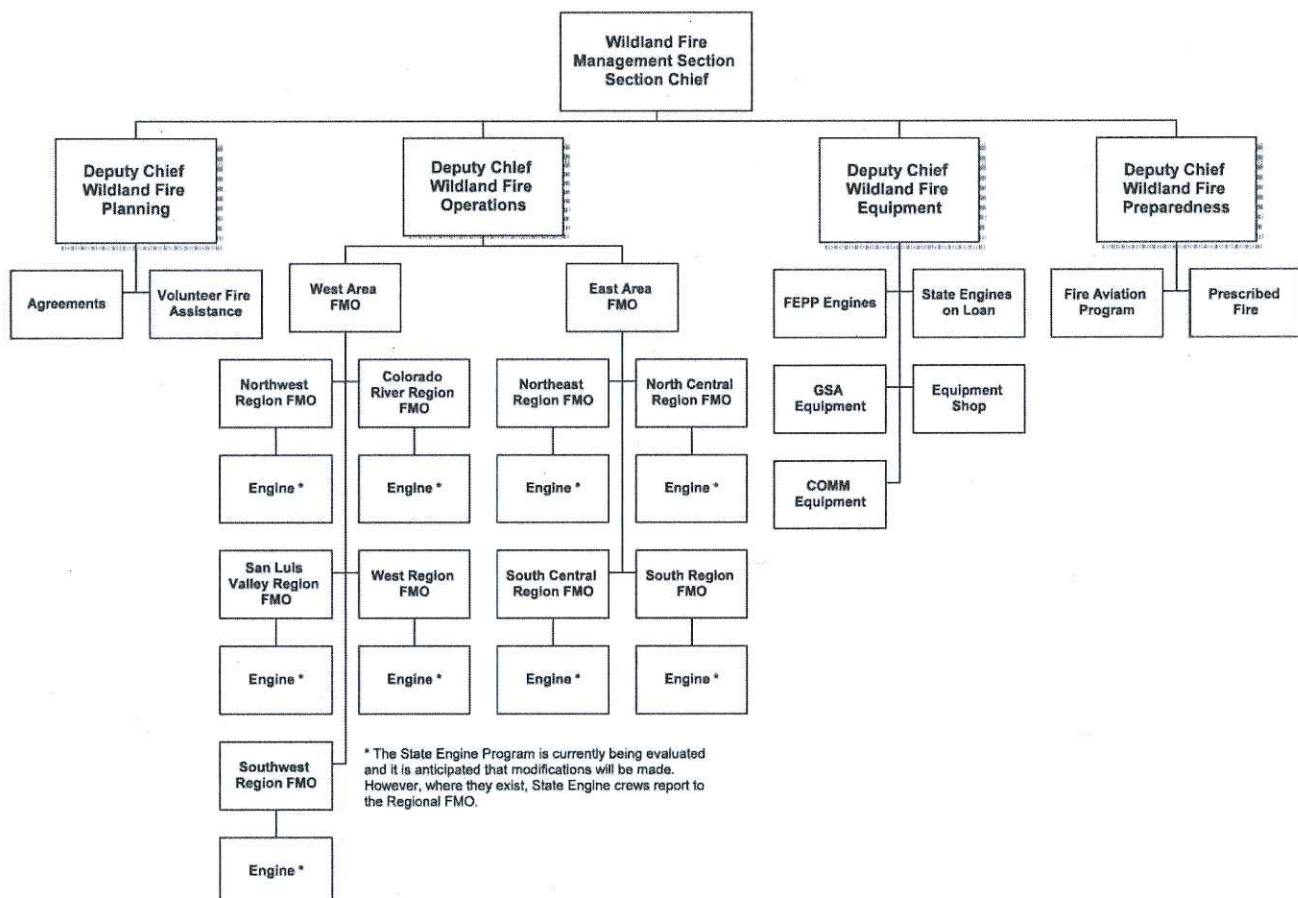
The Division of Fire Prevention and Control is currently organized into three sections and one branch: the Fire and Life Safety Section, the Wildland Fire Management Section, the Training, Certification and Qualifications Section, and the Administrative and Support Services Branch.

The Fire and Life Safety Section is responsible for the Division's building code, fire code and life safety regulatory programs, including: the School Safety Program, the Fire Suppression Program, the Limited Gaming Fire Safety Program, the Hotel and Motel Fire Safety Program, and the Waste Tire Regulatory Program.

Within the Training, Certification, Qualifications and Licensing Section are the Fire Service Training Program; the Firefighter, Hazardous Materials Responder, and Emergency Medical First Responder Certification Programs; the All-Hazard IMT Training and Certification Programs; the NWCG Training and Incident Qualifications System (IQS); the Fire Safe Cigarette Program and the Fireworks Licensing Program. The Administrative and Support Services Branch supervises the Division's strategic planning, budget and financial services; human resources; fire incident reporting; and public information and education responsibilities.

### DFPC Wildland Fire Management Section Organizational Chart

The DFPC Wildland Fire Management Section (WFMS) is separated into four branches: Planning, Operations, Preparedness, and Logistics (Fire Apparatus and Equipment).





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### Wildland Fire Operations

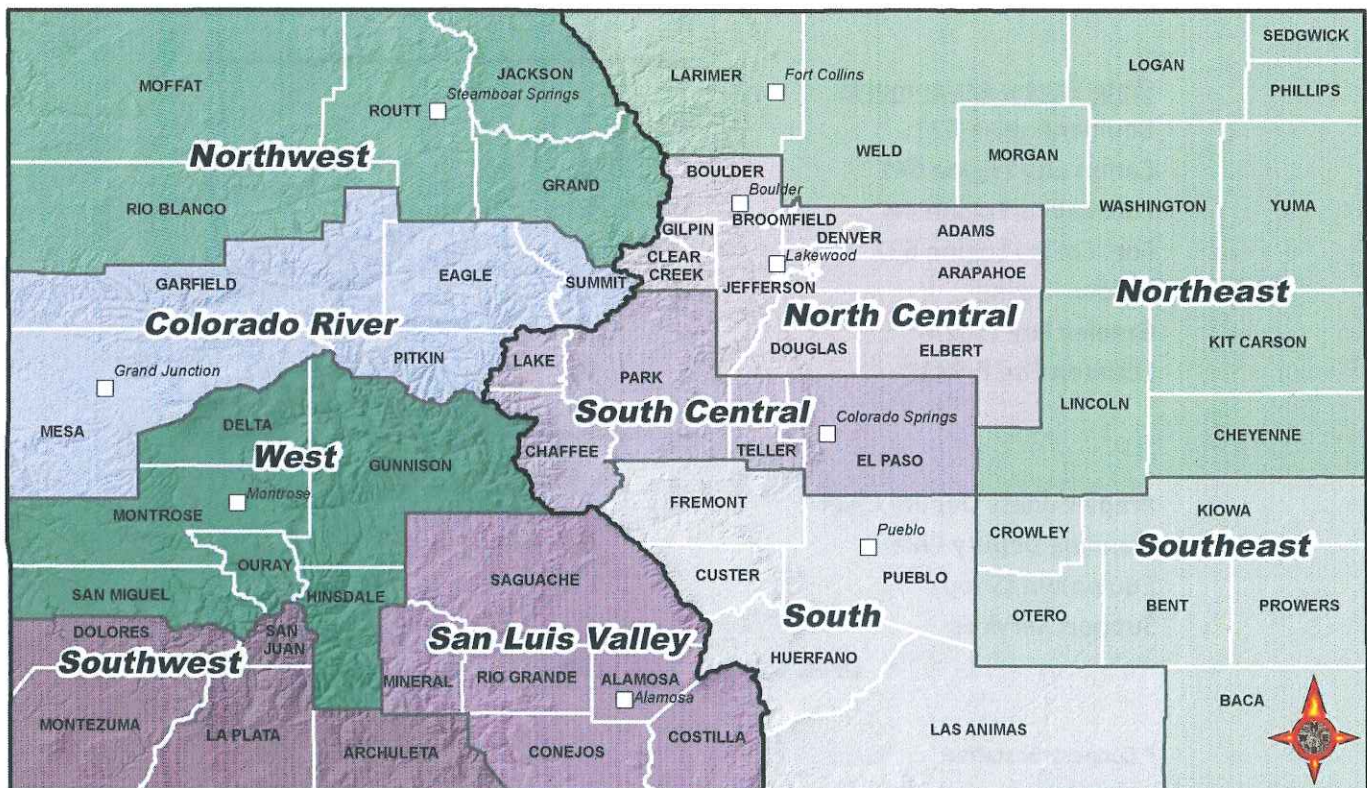
Under the Colorado State Forest Service, wildland fire management service, support, and programs were implemented and delivered to counties and fire districts through a combination of staff members from 17 CSFS District Offices and 4 CSFS Fire Management Officer (FMO) positions. This workload consists of 2 key areas: (1) day-to-day assistance, coordination and administration; and (2) state assistance, response and management during incidents.

Since the duties performed by CSFS District Offices were considered collateral, none of those personnel transferred to the DFPC. Thus, with only the 4 FMO positions transferring, the challenge is to efficiently and effectively maintain viable levels of service and support.

### DFPC Fire Management Regions

An analysis was conducted to determine the best distribution of Fire Management Officers (FMOs) to effectively provide rapid response to incidents in support of counties, sheriffs and local fire chiefs; while performing day to day duties, coordination and administration. This analysis resulted in development of the following Fire Management Regions, which are based on the State All-Hazard Regions, with certain exceptions. The Division currently has a total of 8 Regional FMOs to cover the State's 10 Fire Management Regions, with 2 Area FMO positions serving in supervisory and backfill role.

#### Division of Fire Prevention and Control Fire Management Regions



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DFPC plans to add an FMO to the Southwest Region in early 2013 and is evaluating how to best address the workload and the complexity of fires in the North Central Region. Furthermore, it is anticipated that during active fire seasons, additional experienced and trained state personnel will be needed for Fire Duty Officer and initial response roles. This need was addressed during the second half of the 2012 fire season by maintaining an MOU with CSFS that provided for the response of a qualified "Line Officer" to fires when needed.

### Wildland Fire Management Section Workload Indicators

Following are the workload indicators (number of fires and number of days on incidents) for the Wildland Fire Management Section for 2012. It is important to remember that several of the listed positions did not exist prior to July 1, 2012.

	# of Fires	# of Days on Incidents
<u>Operations Section</u>		
Operations Deputy Chief	1	4
West Area FMO	11	32
Northwest Region FMO	2	6
San Luis Valley Region FMO	2	7
East Area FMO	4	38
Northeast Region FMO	6	26
South Central Region FMO	8	29
South Area FMO	3	32
	<b>37</b>	<b>174</b>
<u>State Engine Assignments</u>		
Boulder Engine 621	4	9
Canon City Engine 641	2	15
Fort Collins Engine 44	8	47
Fort Collins Engine 622	12	70
Golden Engine	3	29
Greeley Fire E-624*	5	52
Littleton Fire E-741*	10	88
	<b>44</b>	<b>310</b>
Preparedness Deputy Chief	3	39
Planning Deputy Chief	5	30
Equipment (Shop)	11	110
Support Services	0	0
<b>DFPC Totals:</b>	<b>100</b>	<b>663</b>

\* Cooperator staffed



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### Fire Aviation Program

For the past several years, the Colorado State Forest Service (CSFS) annually procured Single Engine Air Tanker (SEAT) aircraft on an "Invitation for Bid to Provide Single Engine Air Tanker" contract. Per this contract, SEATs were available to the State of Colorado on an "Exclusive-Use" basis during the wildland fire season. Under the Exclusive Use contract, the SEATs could not leave the State for Interagency use without permission of the contracting authority.



For the 2012 fire season, the CSFS opted not to go with an Exclusive Use contract, but rather was part of a regional interagency joint use agreement for SEATs, that were based out of the State of Colorado. To ensure that Colorado had more say in the operational control of the SEATs, CSFS (and later DFPC) provided virtually all of the support for their operation, including SEAT bases and SEAT Managers. Furthermore, because of the extraordinary wildland fire season and aggressive representation by CSFS/DFPC to the Rocky Mountain Coordinating Group (RMCG), SEAT availability was maintained in the State of Colorado throughout the fire season.

### 2012 SEAT Operational Statistics

Requesting Agency	# Total Incidents	# Total Loads	# Total Flight Time (hrs)	# Total Gallons Delivered	%
County/State	15	121	145.48	89,034	24.30
BLM	45	290	241.76	209,127	40.38
USFS	19	260	168.14	192,111	28.08
Other States	3	13	10.08	9,834	1.68
BIA	13	58	28.33	42,057	4.73
NPS	1	5	4.95	3,547	0.83
<b>Total</b>	<b>96</b>	<b>747</b>	<b>598.74</b>	<b>545,710</b>	<b>100.00</b>

### Off-Season Operations

When the CSFS had an Exclusive Use contract, during the off-season, one SEAT was available as a "Call-When-Needed" (CWN) resource, which in reality meant that a SEAT was housed in a hangar in the State, but the pilot was on-call at their home base in Idaho. If the CWN contract were activated for a fire, the pilot would need to travel to Colorado before the SEAT was ready for a mission, and the minimum contract period was 10 days.

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This year, in the absence of an Exclusive Use contract, once the SEATs were released from their federal contracts on September 30, they were free to return to their home base in Idaho. However, due to the ongoing potential of a wildland fire that could threaten lives and/or property, the DFPC maintained one SEAT available in the State on a weekly contract rate.

On November 13, after consultation with stakeholders, the DFPC released the remaining SEAT to return to its home base.

### Fire Billing and Cooperator Reimbursements

With the transfer of wildland fire management functions from the Colorado State Forest Service to the Division of Fire Prevention and Control, the DFPC has assumed responsibility for fire billing and cooperator reimbursements. All fire billing between federal and local/county agencies are submitted through DFPC's Support Services Branch.

The DFPC responsibilities related to fire billing and cooperator reimbursements include:

- Develop, distribute, process, and approve Cooperative Resource Rate Form (CRRFs) for Cooperator agencies.
- Assist Cooperator agencies with training and CRRF completion as requested.
- Provide Cooperator agencies with IQSweb training and access.
- Facilitate entry of Cooperator engine and personnel resources into ROSS.
- Process Cooperator agency reimbursement requests per current DFPC Reimbursement Guidelines.

The workload related to fire billing and cooperator reimbursements has increased significantly over the past three years, as evidenced in the below table.

**Fire Billing and Cooperator Reimbursement  
Workload Indicators**

	2007	2008	2009	2010	2011	2012
CRRFs		15	214	74	252	268
Cooperator Reimbursements	788	862	445	726	1,391	2,521
Increase Over Previous Year		9.4%	-48.4%	63.2%	91.6%	81.2%
Participating Cooperators		90	101	123	134	157
Increase Over Previous Year			12.2%	21.8%	8.9%	17.2%
Number of Incidents In-State	172	152	111	82	118	156
Number of Incidents Out-of-State	301	167	106	62	203	263
Total Incidents	473	319	217	144	321	419
Number of States	19	20	18	15	23	16
Average Days to Process	21	26	43	46	60	90



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It is the goal of the DFPC to reduce the average time to process Cooperator reimbursements to 30 days. This will require examination and reengineering of fire billing procedures, as well as an evaluation of resource needs.

### Colorado Department of Corrections: State Wildland Inmate Fire Team

Following the 2000 fire season, Colorado Corrections Industries (CCI) began forming a wildland fire team to provide hand crew support and assistance on wildland fires within Colorado. CCI operates the four State Wildland Inmate Fire Team (SWIFT) crews, housed at various correctional facilities in Colorado. Currently, one SWIFT crew operates out of the Four Mile Correctional Center in Canon City, one out of the Buena Vista Correctional Center, and two SWIFT crews operate out of the Rifle Correctional Center, one of which was added in 2012.



The Buena Vista SWIFT Crew on the Hewlett Fire (May 17, 2012)

During the 2012 fire season, SWIFT crews responded to 41 separate wildfire incidents, working a total of 246 days on 54 fire assignments. The crew that was added mid-season did 19 days on assignment and the other 3 crews averaged 75 days on assignment.

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### Immediate Actions Taken to Improve the State's Response to Wildfires

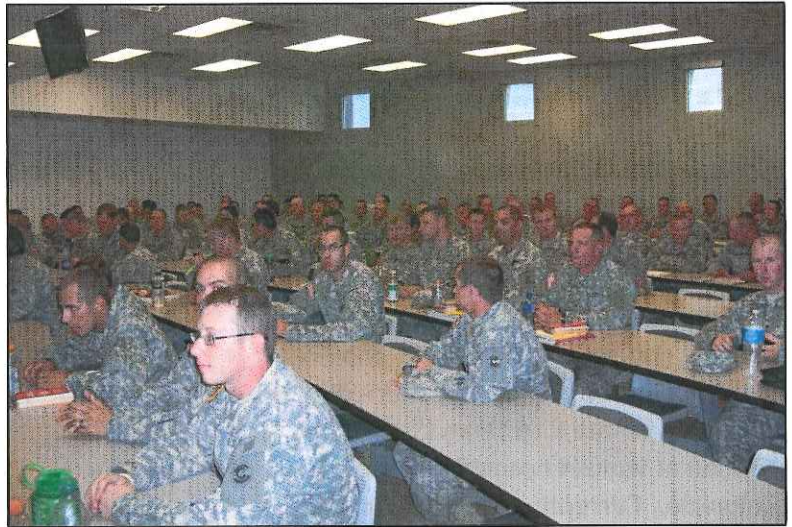
To accomplish the orderly transfer of responsibilities from CSU/CSFS and to ensure the continuity of services and support to counties, sheriffs and local fire chiefs, the following immediate actions were taken:

- CDPS established the State Emergency Operations Line as the new point of contact for counties to report wildland fires and/or request assistance (303-279-8855).
  - Upon request, communications personnel will notify the appropriate Regional FMO or Area FMO if the Regional FMO is not available.
  - The closest available resource capable of providing technical assistance and support to local agencies and facilitate the EFF assessment and application process will be dispatched. In some cases, this was a CSFS Line Officer operating under an MOU between CSFS and DFPC.
- DFPC requested and Governor Hickenlooper approved plan to double WERF in order to provide for 2 hours of firefighting helicopter time; first 2 SEAT flights; or 4 hand crew days. DFPC believes that without use of WERF and specifically "enhanced WERF", several more fires would have qualified as Emergency Fire Fund fires, which would have negatively impacted the Disaster Emergency Fund.

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- DFPC prepositioned State Engines and crews in Northwest Colorado on “severity assignments” during a period of high wildfire incidence.
- DFPC financially supported the addition of a 4th SWIFT crew, housed at Rifle Correctional Center.
- In a partnership with DFPC, the Colorado National Guard, and the Governor's Office, the Colorado Wildland Fire and Incident Management Academy provided basic wildland firefighter training to 112 members of the CONG.



The Colorado National Guard graduates of S-130/190 basic wildland firefighter training.

### Appendices

- A Wildland Fires by County
- B Colorado's Largest Wildfires

Appendix A

# Wildland Fires by County

[January 1 – December 31, 2012]





## Wildfire in Colorado 2012 – Appendix A

### Wildland Fires by County

January 1 – December 31, 2012

The following table depicts the wildland fires reported by Colorado fire departments through the National Fire Incident Reporting System (NFIRS) for 2012. This report includes all incidents compiled through April 25, 2013.



Lower North Fork Fire



Sunrise Mine Fire



Hewlett Fire



High Park Fire



Waldo Canyon

County	Total Wildland Fires	Total Acres Burned	Total Dollar Loss
Adams	477	746	\$118,615
Alamosa	22	133	\$170,000
Arapahoe	445	8,241	\$32,500
Archuleta	68	35	\$1,500
Baca	2	0	\$0
Bent	2	2	\$0
Boulder	359	595	\$8,231
Broomfield	0	0	\$0
Chaffee	18	25	\$0
Cheyenne	10	222	\$0
Clear Creek	0	0	\$0
Conejos	12	10	\$0
Costilla	0	0	\$0
Crowley	9	2	\$0
Custer	21	5	\$0
Delta	23	35	\$2,500
Denver	0	0	\$0
Dolores	2	2	\$0
Douglas	92	7	\$10
Eagle	65	688	\$2,220
El Paso	748	35,616	\$352,600,000
Elbert	45	51	\$3,100
Fremont	201	42	\$1,150
Garfield	154	1,054	\$1
Gilpin	15	2	\$0
Grand	25	13	\$0
Gunnison	32	980	\$0
Hinsdale	0	0	\$0
Huerfano	34	334	\$0
Jackson	11	57	\$0
Jefferson	535	5,961	\$12,300
Kiowa	0	0	\$0
Kit Carson	51	3069	\$0

## Wildfire in Colorado 2012 – Appendix A



Flagstaff Fire



Heartstrong Fire



Springer Fire



Little Sand Fire



Last Chance Fire



Weber Fire

County	Total Wildland Fires	Total Acres Burned	Total Dollar Loss
La Plata	262	570	\$4,300
Lake	9	2	\$0
Larimer	540	87,560	\$30,006,926
Las Animas	127	161	\$1
Lincoln	10	215	\$0
Logan	97	14,358	\$215,550
Mesa	407	1,218	\$655,900
Mineral	0	0	\$0
Moffat	29	2,038	\$0
Montezuma	177	2,921	\$2,400,000
Montrose	66	123	\$1,300
Morgan	56	3,659	\$0
Otero	28	87	\$1,820
Ouray	0	0	\$0
Park	55	331	\$0
Phillips	12	838	\$0
Pitkin	0	0	\$0
Prowers	47	3,124	\$2,500
Pueblo	394	136	\$53,100
Rio Blanco	63	538	\$0
Rio Grande	1	0	\$0
Routt	23	819	\$3,600
Saguache	6	2	\$0
San Juan	0	0	\$0
San Miguel	30	18	\$0
Sedgwick	14	3,171	\$3,150
Summit	52	7	\$0
Teller	36	4,194	\$0
Washington	46	46,813	\$3,000
Weld	367	1,932	\$165,277
Yuma	27	26,688	\$20,401
<b>TOTAL</b>	<b>6,459</b>	<b>259,451</b>	<b>\$386,488,952</b>

Appendix B

# Colorado's Largest Wildfires

[Largest Wildfires by Acres Burned]





### Colorado's Largest Wildfires

Following is a summary of the largest wildfires in Colorado history, in terms of how many acres were burned.

#### 1 - Hayman Fire

Lake George (Park County), CO

June 8 – July 18, 2002

Acres burned: 138,114

Homes destroyed: 133

Deaths: 6 (1 civilian, 5 firefighters)

Firefighting cost: \$39.1 million

Cause: Human (arson)

Photograph taken from the headquarters of the Manitou Experimental Forest located on the eastern perimeter of the Hayman Fire, as the fire approached on June 18, 2002.



The Hayman fire started on June 8, 2002, and became the largest wildfire in Colorado's recorded history. The fire started just south of Tarryall Creek and County Highway 77 near Tappan Mountain (Park County) on the Front Range of the Rocky Mountains between Denver and Colorado Springs, CO.

When the fire was finally brought under control on July 18, 2002, it had burned 138,114 acres, resulted directly in the death of one civilian, \$39.1 million in suppression costs, the destruction of 133 homes with total private property losses valued at \$40.4 million, and indirectly led to the death of five firefighters.

Hayman Fire Case Study: [http://www.fs.fed.us/rm/pubs/rmrs\\_gtr114.pdf](http://www.fs.fed.us/rm/pubs/rmrs_gtr114.pdf).

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#### 2 - High Park Fire

Larimer County (Fort Collins), CO

June 9 – 30, 2012

Acres burned: 87,250

Homes destroyed: 259

Firefighters: 1,923

Firefighting cost: \$39.2 million

Cause: Lightning

Photo: Trees torching at the High Park Wildfire on the Arapaho and Roosevelt National Forests and Pawnee National Grassland on Thursday, June 17, 2012. USFS Photo



The High Park fire, located approximately 15 miles west of Fort Collins in Larimer County, was caused by a lightning strike and was first detected on the morning of June 9, 2012.

## Wildfire in Colorado 2012 – Appendix B

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The fire burned over 87,250 acres making it the second-largest fire in recorded Colorado history by area burned, after the Hayman Fire of 2002. It destroyed at least 259 homes, surpassing the number consumed by the Fourmile Canyon fire of 2010. The High Park fire was the most destructive fire in Colorado history, in terms of the number of houses burned, until it was surpassed by the Waldo Canyon fire. A 62-year-old woman was killed in the fire.

The High Park fire was declared 100 percent contained on June 30, 2012. Total suppression costs are estimated at \$39.2 million.

For more information, go to: <http://inciweb.org/incident/2904/>

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### 3 - Missionary Ridge Fire

Durango (La Plata County), CO

June 9 – July 14, 2002

Acres burned: 71,739

Homes destroyed: 56

Deaths: 1 firefighter

Firefighting cost: \$40 million

Cause: Spark from an unknown source



A single spark from an unknown source ignited a large, fast moving fire on Missionary Ridge northeast of Durango, CO on Sunday afternoon, June 9, 2002. The fire quickly roared out of control and would go on to become the second largest wildfire in Colorado history, burning 73,145 acres. It would be the end of June before the fire would be mostly under control. One firefighter was killed by a falling tree.

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### 4 - Last Chance Fire

Last Chance (Washington County), CO

June 25-26, 2012

Acres burned: 52,232 (grassland)

Structures destroyed: 11 (4 homes)

Firefighters: 110

Firefighting cost: Unknown

Cause: Sparks from a tire blowout ignited surrounding brush.





## Wildfire in Colorado 2012 – Appendix B

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The Last Chance fire burned more than 45,000 acres of grassland, farmland, ranchland and several residences, making it the second largest fire in Colorado so far this summer. It burned at least four homes and destroyed seven other structures. A fire truck was also burned when crews were forced to escape from the fast-moving flames. Flames burned power lines and cut power to parts of southern Washington County.

More than 110 firefighters were involved in fighting the fire. At least 40 pieces of equipment were in use during the firefighting, including several aircraft dumping water and fire retardant on the flames.

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### **5 - Bridger Fire**

Piñon Canyon Maneuver Site and Comanche  
National Grasslands (Las Animas County)  
June 8 - July 9, 2008

Acres burned: 45,800  
Structures destroyed: 3  
Firefighters: 355  
Firefighting cost: \$2,700,000  
Cause: Lightning



The Bridger Fire started at the U.S. Army's Piñon Canyon Maneuver Site on June 8th in the Red Rock Canyon area, about 35 miles inside the north rim of the training grounds in Las Animas County. The fire subsequently moved to private ranch land.

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### **6 - Bear Springs/Callie Marie Fires**

Piñon Canyon Maneuver Site (Las Animas County)  
June 5 – 21, 2011

Acres burned: 44,662  
Structures destroyed: 5  
Firefighters: 205  
Firefighting cost: \$2.5 million  
Cause: Lightning



The Bear Springs fire (35,583 acres) was 15 miles west of the Callie Marie fire (9,079 acres) on the Piñon Canyon Maneuver Site.



## Wildfire in Colorado 2012 – Appendix B

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### 7 – Burn Canyon Fire

San Miguel County (5 Miles SW of Norwood)

July 9 – 22, 2002

Acres burned: 31,300

Firefighters: 735

Firefighting cost: \$5,745,500

Cause: Lightning



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### 8 - Mount Zirkel Complex

Steamboat Springs (Routt County), CO

August 12 – September 25, 2002

Acres burned: 31,016

Firefighting cost: \$13.3 million.

Cause: Lightning

This complex, comprised of the Hinman (9,326 acres) and Burn Ridge (8,260 acres) Fires, was 25 miles north of Steamboat Springs in the Mt. Zirkel Wilderness Area (Routt National Forest).



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### 9 - Trinidad Complex (Spring, Fisher/James John Fires)

Stonewall/Trinidad (Las Animas County), CO

June 2 – 14, 2002

Acres burned: 33,000\*

Firefighters: 284

Firefighting cost: \$2.6 million.

Cause: Lightning

\*25,919 acres in Colorado



The Trinidad Complex consisted of the Spring Fire which was 8 miles south of Stonewall and burned in both Colorado (20,223 acres) and New Mexico (7,081 acres), and the James John (or Fisher) Fire which was 9 miles southeast of Trinidad (5,696 acres).



## Wildfire in Colorado 2012 – Appendix B

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### 10 – Mayberry Fire

Moffat County (32 Miles NW of Craig, CO)

August 24 – 28, 2002

Acres burned: 25,385

Firefighting cost: Not Reported

Cause: Lightning



### 11 – Little Sand Fire

Archuleta County (13 miles NW of Pagosa Springs)

May 13 – July 9, 2012

Acres burned: 24,900

Firefighters: 181

Firefighting cost: \$7.54

Cause: Lightning

See: <http://inciweb.org/incident/2878/>



### 12 – Heartstrong Fire

Yuma County (20 miles SE of Yuma), CO

March 18 - 19, 2012

Acres burned: 24,000 (grassland)

Homes destroyed: 2

Firefighting cost: Unknown

Cause: Downed power line from high winds

Note: 3 firefighters were injured in a burnover incident





## Wildfire in Colorado 2012 – Appendix B

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### 13 – Bircher Fire

Montezuma County (near Mesa Verde NP)

July 20 - 29, 2000

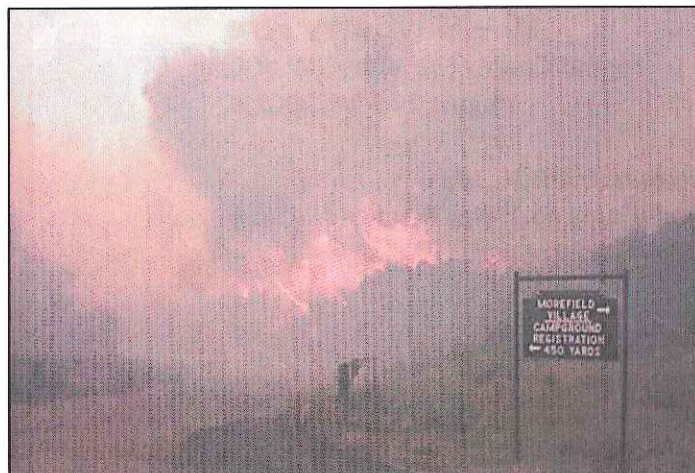
Acres burned: 23,607

Firefighters: 1,000+

Firefighting cost: \$5.3 million

Cause: Lightning

For more information: <http://tinyurl.com/b4bpf4d>



### 14 – Waldo Canyon Fire

Colorado Springs (El Paso County), CO

June 23 - July 10, 2012

Acres burned: 18,247

Deaths: 2

Homes destroyed: 346

Firefighters: 1,000+

Firefighting cost: \$15.3 million

Cause: Human (under investigation)



As of this printing, the Waldo Canyon Fire is the most expensive fire in state history with insurance claims totaling more than \$352.6 million dollars. It is also the most destructive fire in state history as measured by the number of homes destroyed, eclipsing the previous record-holding fire, the High Park Fire of 2012. For more information see: <http://inciweb.org/incident/2929/>

### 15 – Big Fish Fire

Garfield/Rio Blanco Counties

July 8 - November 1, 2002

Acres burned: 17,056

Structures destroyed: 8

Firefighting cost: \$1.9 million

Cause: Lightning





## Wildfire in Colorado 2012 – Appendix B

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The Big Fish fire was sparked by lightning on July 8, 2002 but was being allowed to burn because it was in the remote Flat Tops Wilderness Area, 34 miles southwest of Steamboat Springs. It flared up on August 15, 2002, forcing evacuations, and destroyed Trappers Lake Lodge, seven cabins and burned through Trappers Lake Campground.

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### 16 – Cheyenne County Fire

Cheyenne County, CO  
May 31 - June 1, 2002

Acres burned: 15,000 (brush and grass)  
Firefighting cost: Unknown  
Cause: Lightning

### 17 – Ft. Lyons Fire

Las Animas (Bent County), CO  
April 7 - 15, 2011

Acres burned: 14,000 (brush and grass)  
Firefighting cost: \$302,000  
Cause: Lightning

### 18 – Pine Ridge Fire

Garfield/Rio Blanco Counties  
June 27 - July 4, 2012

Acres burned: 13,920  
Firefighters: 213  
Firefighting cost: Unknown  
Cause: Lightning

See: <http://inciweb.org/incident/2951/>



### 19 – Mato Vega Fire

Costilla County (12 miles NE of Fort Garland), CO  
June 18 - 30, 2006

Acres burned: 13,820  
Firefighters: 566  
Firefighting cost: \$3.1 million  
Cause: Lightning

The Mato Vega Fire burned on the Trinchera Ranch and surrounding area and closed U.S. 160 over La Veta Pass for four days.

### 20 – Spring Creek Complex

Garfield County (6 miles north of New Castle), CO  
June 22 – July 21, 2002

Acres burned: 13,490  
Firefighters: 293  
Firefighting cost: \$6.98 million  
Cause: Lightning

This complex was created on July 17, 2002 and consists of Spring Creek Fire (CO-WRF-339) and East Meadow Creek Fire (CO-WRF-475).

## Wildfire in Colorado 2012 – Appendix B

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### 21 – Shell Complex

Las Animas County (15 Miles N of Kim), CO

June 7 - 17, 2011

Acres burned: 13,312

Structures destroyed: 7

Firefighters: 258

Firefighting cost: \$1.1 million

Cause: Lightning

The Shell Complex consisted of the Shell Fire (12,827 acres), Brice Fire (329 acres) and Mesa de Maya Fire (156 acres).



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### 22 – Coal Seam Fire

Garfield County (W of Glenwood Springs), CO

June 7 – July 9, 2002

Acres burned: 12,209

Structures destroyed: 43 (29 homes)

Firefighting cost: \$7.3 million

Cause: Other

The South Cañon Number 1 Coal Mine fire, a subsurface fire burning since 1910, ignited the Coal Seam Fire.



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### 23 – Karval Fire

Lincoln County (Karval), CO

March 24, 2011

Acres burned: 12,000 (grass)

Structures destroyed: 3

Firefighting cost: Unknown

Cause: Human

The fast moving, wind driven grass fire west of Karval caused the evacuation of the town and destroyed a barn and two county bridges.

### 24 – Buffalo Creek Fire

Jefferson County, CO

May 18 - 25, 1996

Acres burned: 11,875

Structures destroyed: 18 (9 homes)

Firefighting cost: \$2.8 million

Cause: Human

An unattended, smoldering campfire close to Wellington Lake in Pike National Forest near Buffalo Creek, escaped when winds picked up.



## Wildfire in Colorado 2012 – Appendix B

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### 25 – Mason Fire

Fremont/Pueblo Counties  
(2 Miles S of Wetmore), CO  
July 7 - 16, 2005

Acres burned: 11,357  
Structures destroyed: 1  
Firefighting cost: \$3.8 million  
Cause: Lightning



### 26 – Hi Meadow Fire

Bailey (Park County), CO  
June 12-20, 2000

Acres burned: 10,800  
Homes destroyed: 51  
Firefighters: 791  
Firefighting cost: \$4.5 million  
Cause: Human (cigarette)



Note: The Hi Meadow wildfire was subsequently studied for the effect of fuel treatments on wildfire severity. See: "Effect of Fuels Treatment on Wildfire Severity" at: <http://tinyurl.com/ad2xc68>.

### 27 – Bobcat Gulch Fire

Larimer County, CO  
June 12-19, 2000

Acres burned: 10,559  
Structures destroyed: 22  
Firefighters: 1,075  
Firefighting cost: \$3.3 million  
Cause: Human (illegal campfire)

For more information: <http://tinyurl.com/b5qxufs>.





## Wildfire in Colorado 2012 – Appendix B

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### 28 - Weber Fire

Mancos (Montezuma County), CO

June 22 – July 6, 2012

Acres burned: 10,133

Homes destroyed: 0

Firefighting cost: \$2,135,000

Cause: Human

See: <http://inciweb.org/incident/2937/>

A juvenile was charged with two counts of juvenile delinquency for starting the fire.



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### 29 – Lincoln County Complex

Lincoln County, CO

May 31 - June 1, 2002

Acres burned: 10,000 (grass and brush)

Structures destroyed: 4 (2 homes)

Firefighting cost: Unknown

Cause: Lightning

### 30 – Million Fire

Rio Grande County (2 miles S of South Fork), CO

June 19 - 29, 2002

Acres burned: 9,346

Structures destroyed: 13 (11 homes)

Firefighting cost: \$9.8 million

Cause: Human

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### 31 – Picnic Rock Fire

Larimer County (10 miles NW of Fort Collins), CO

March 30 - April 9, 2004

Acres burned: 8,908

Homes destroyed: 1

Firefighters: 444

Firefighting cost: \$2.3 million

Cause: Human (escape of illegal burn of yard waste)



According to the IC, the lack of handcrews significantly hampered fire control operations. Normally, seasonal fire crews and equipment aren't in place in northern Colorado until May, so the necessary firefighters and air support were hard to come by.



## Wildfire in Colorado 2012 – Appendix B

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### 32 – Ordway Fire

Ordway (Crowley County), CO

April 15 - 17, 2008

Acres burned: 8,900

Structures destroyed: 44 (24 homes)

Deaths: 2 firefighters

Firefighting cost: \$150,000

Cause: Human (escape of an agricultural controlled burn)

For more information: <http://tinyurl.com/d9dm8e4>



### 33 – Furnish Fire

Las Animas County, CO

May 15 - 17, 2002

Acres burned: 8,000

Structures destroyed: 0

Firefighting cost: Unknown

Cause: Lightening

This fire was located approximately 80 miles east of Trinidad, CO (Las Animas County) in the Furnish and Black Canyon.

### 34 – Track Fire

Las Animas County, CO

June 12 - 28, 2011

Acres burned: 7,830\*

Structures destroyed: 11 (8 homes)

Firefighting cost: \$8,750,000

Cause: Human

This fire started on June 12<sup>th</sup> in New Mexico and crossed into Colorado on June 13<sup>th</sup>. The total acreage was 27,792 acres; of which 7,830 were in Colorado.

### 35 - Greasewood Fire (WFU)

Rio Blanco County (17 miles W of Meeker), CO

June 1 – June 24, 2004

Acres burned: 7,815

Homes destroyed: 0

Firefighting cost: \$1,093,454

Cause: Lightening

This fire was managed by a Fire Use Team for resource benefit.

